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Development and Validation of the *Santri Teaching Khidmah* Scale for Pedagogical Service in Pesantren

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ABSTRACT

Khidmah in pesantren encompasses educational service and the ethical and spiritual commitments underlying knowledge transmission. However, existing research has predominantly adopted qualitative approaches or broad service concepts, leaving *Santri Teaching Khidmah* insufficiently represented by validated psychometric measures. This study aimed to develop and conduct an initial validation of the 36-item *Santri Teaching Khidmah Scale* (STKS), grounded in Islamic educational literature and classical texts on teacher ethics, knowledge transmission, and self-development. Using an instrument development design, data were collected from 200 santri teachers across three pesantren in Central Java. After content validation, the study proceeded with exploratory factor analysis (EFA), followed by confirmatory factor analysis (CFA). In addition, the researchers assessed convergent validity, discriminant validity, and reliability to ensure the measurement model was both valid and consistent. EFA supported a three-factor solution, and all 36 items were retained. CFA confirmed Pedagogical-Islamic Competence, Teachers' Intentions and Ethics, and Self-Reflection and Self-Development, with standardized loadings of 0.672–0.817. Model fit was supported by $\chi^2/df = 0.979$, CFI = 1.000, TLI = 1.003, RMSEA = 0.000 (90% CI [0.000, 0.020]), and SRMR = 0.046. AVE values ranged from 0.513 to 0.583, CR from 0.927 to 0.944, and discriminant validity was adequate. The STKS provides initial evidence for a culturally grounded, multidimensional measure of teaching khidmah in pesantren.

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INTRODUCTION

Pesantren continue to undergo a dynamic historical transformation and no longer function solely as centers for the transmission of classical Islamic scholarship (*tafaqquh fid din*), but also play a strategic role as agents of character building, the reinforcement of moral values, and the development of students' social capacities to respond to the challenges of contemporary society.[1] This expansion of functions has driven pesantren to develop more participatory and sustainable educational mechanisms, including student involvement in various learning activities.[2] Involvement serves not only as a means of leadership development but also as informal teacher preparation, through which santri gain direct pedagogical experience by mentoring, guiding, and teaching younger students.[3] At MTs Salafiyah Tebuireng, for instance, selected students are guided by teachers before being assigned to deliver learning materials to their peers.[4] As an educational approach, it is similar to service learning. Santri shall learn by doing, through meaningful service to the learning community, as part of the process of achieving pedagogical competence.[5] It is culturally based, however, unlike traditional service-learning. Educational values and pesantren traditions, in which teaching is understood and taught as learning, service, moral responsibility, and spiritual devotion.[6] *Khidmah is* one of the key ways this is realized, and it plays an important role in the pedagogy of pesantren.[7] Teaching khidmah is thus a

[1] M. Falikul Isbah, "Pesantren in the Changing Indonesian Context: History and Current Developments," *Qudus International Journal of Islamic Studies* 8, no. 1 (2020): 97, https://doi.org/10.21043/QIJIS.V8I1.5629; Imam Mujahid, "Islamic Orthodoxy-Based Character Education: Creating Moderate Muslim in a Modern Pesantren in Indonesia," *Indonesian Journal of Islam and Muslim Societies* 11, no. 2 (2021): 189, https://doi.org/10.18326/ijims.v11i2.185-212; Ubaidillah Ubaidillah and Muhammad Fauzinudin Faiz, "Beyond The Sacred Walls: Reimagining Pesantren's Architecture of Islamic Moderation," *Ulumuna* 29, no. 1 (2025): 60, https://doi.org/10.20414/ujis.v29i1.1362.

[2] Susanto et al., "The Program for Self-Regulated Learning: An Empirical Study on Students-Survival Skills in Pesantren," *Jurnal Ilmiah Peuradeun* 13, no. 1 (2025): 638, https://doi.org/10.26811/peuradeun.v13i1.1483; Zalik Nuryana, Erik Tauvani Somae, and Ahmad Munjin Nasih, "Success Story in Life-Based Learning: How Pesantren Transforms Real-Life Experiences into Educational Gold," *Lifelong Learning Book Series* 37 (2026): 323, https://doi.org/10.1007/978-3-032-16731-6_21.

[3] Lelly Lailiyah Novianti et al., "The Pesantren Way in Creating Leaders," *Journal of Indonesian Islam* 19, no. 2 (2025): 367, https://doi.org/10.15642/JIIS.2025.19.2.363-388; Ahmad Fauzi et al., "Influence of Satlogi Santri Values on Sufistic Leadership: Enhancing Service Quality and Productivity in Pesantren," *Munaddhomah* 6, no. 4 (2025): 688, https://doi.org/10.31538/munaddhomah.v6i4.1950; Muhammad Anas Ma'arif et al., "Model of Kiai Leadership Based on Local Wisdom: Preventing Radicalism and Building Education in the Global South," *Kharisma* 5, no. 1 (2026): 17, https://doi.org/10.59373/kharisma.v5i1.149.

[4] Ahmad Fahrudin and Muhammad Khoirul Malik, "A Pesantren Cultural Value-Based Learning Model: Integrating Islamic Values and 21st-Century Skills," *Cendekia: Jurnal Kependidikan dan Kemasyarakatan* 23, no. 1 (2025): 95, https://doi.org/10.21154/cendekia.v23i1.10646.

[5] Samia A. Khan and Rob VanWynsberghe, "A Synthesis of the Research on Community Service Learning in Preservice Science Teacher Education," *Frontiers in Education* 5 (2020): 4, https://doi.org/10.3389/feduc.2020.00045.

[6] Muhammad Taisir, Ahmad Sanusi, and Ahmad Aprillah, "Integrating Khidmah and Tarbiyah: A Service-Learning Model in Indonesia's Islamic Boarding School Education," *Al-Hayat: Journal of Islamic Education* 9, no. 2 (2025): 347, https://doi.org/10.35723/ajie.v9i2.151.

[7] Abdul Kholiq, "Value Conflict of Character Education in Traditional Pesantren," *Nadwa: Jurnal Pendidikan Islam* 16, no. 2 (2022): 156, https://doi.org/10.21580/nw.2022.16.2.14656; Muhammad Anggung Manumanoso Prasetyo et al., "Strategic Human Resource Cadre Development in Pesantren: A Roadmap to Organizational Resilience," *Pertanika Journal of Social Sciences and Humanities* 33, no. 2 (2025): 913, https://doi.org/10.47836/pjssh.33.2.19.

pedagogical service, one that brings about transmission. In love of Islamic knowledge, it is spiritually dedicated and grounded in sincerity (*ikhlas*), respect for teachers and kyai (*ta'dzim*), moral responsibility (*amanah*), and compassion (*rahmah*).[8]

However, in practice, the implementation of teaching khidmah in pesantren is not always supported by systematic and standardized assessment methods. Assessments of santri: Generally, teachers are still guided by informal observations by the kyai and pesantren administrators, making it hard to identify aspects of pedagogical readiness, spiritual commitment, and teaching responsibility.[9] While there are validated instruments that are related to education-focused areas, they do not apply to this context. The emphasis of their measurement is not strictly congruent with the focus of Santri; however, they are more interested in the social, cultural, and political aspects of religion. Teaching Khidmah, for example, the teachers' sense of efficacy scale measures teachers' perceived capability to perform key instructional tasks, whereas the service-learning outcomes measurement scale evaluates developmental outcomes associated with service-learning experiences.[10] These instruments provide important measures of teaching efficacy and service-based learning. Pedagogical, ethical, and spiritual aspects are not specifically integrated into the outcomes, but they are considered. Reflective dimensions are embedded in the pesantren culture. Therefore, the lack of a culturally appropriate, psychometrically sound tool developed specifically for the systematic assessment of areas for improvement is a limitation in Santri Teaching Khidmah for santri teachers' development. This gap is significant because the santri teachers in the area are not represented in the curriculum, a key element in maintaining continuity of knowledge and education within pesantren.[11]

Research on khidmah has been widely discussed in the field of pesantren education, particularly regarding its aims in character formation, student service, and the internalization of tarbiyah values.[12] Most studies, however, take a general view of khidmah as service to the

[8] Aufa Abdillah and Erkham Maskuri, "The Khidmah Tradition of Santri Towards Kyai (The Review of 'Urf & Psychology)," *Nazhruna: Jurnal Pendidikan Islam* 5, no. 1 (2022): 278, https://doi.org/10.31538/nzh.v5i1.2082; Rizal Fathurrohman and Ahmad Arifi, "Khidmah in Transition: Santri, Kiai, and Social Transformation in Pesantren," *Nadwa: Jurnal Pendidikan Islam* 18, no. 2 (2024): 230, https://doi.org/10.21580/nw.2024.18.2.21107; Mona Novita et al., "Spiritual and Value-Based Islamic Educational Leadership in Indonesia: A Hermeneutic Inquiry into Love, Moderation, and Institutional Management," *Munaddhomah* 7, no. 2 (2026): 340, https://doi.org/10.31538/munaddhomah.v7i2.2571.

[9] Julian Millie, "'Talaqqi' in the Age of Bureaucracy; Symbiosis of Pedagogical Cultures in West Javanese 'Pesantren,'" *Wacana* 26, no. 2 (2025): 239, https://doi.org/10.17510/wacana.v26i2.1799; Abd Razak Zakaria et al., "Strategic Management Practices in Pesantren: Innovations for Enhancing Educational Quality and Organizational Sustainability," *Malaysian Online Journal of Educational Management* 13, no. 2 (2025): 89, https://doi.org/10.22452/mojem.vol13no2.5; Muhammad Najib, M. Maskuri, and Mas'ud M. Sa'id, "Curriculum Management and Power Relations: Strategies for Multicultural Character Development of Santri in Traditional Pesantren," *Munaddhomah* 7, no. 1 (2026): 110, https://doi.org/10.31538/munaddhomah.v7i1.2261.

[10] Megan Tschannen-Moran and Anita Woolfolk Hoy, "Teacher Efficacy: Capturing an Elusive Construct," *Teaching and Teacher Education* 17, no. 7 (2001): 783, https://doi.org/10.1016/S0742-051X(01)00036-1; Robin S Snell and Kin Ho Lau, "The Development of a Service-Learning Outcomes Measurement Scale (S-LOMS)," *Metropolitan Universities* 31, no. 1 (2020): 47, https://doi.org/10.18060/23258.

[11] Islah Gusmian and Mustaffa Abdullah, "Knowledge Transmission and Kyai-Santri Network in Pesantren in Java Island During the 20th Century: A Study on Popongan Manuscript," *Afkar* 24, no. 1 (2022): 159, https://doi.org/10.22452/afkar.vol24no1.5.

[12] Taisir, Sanusi, and Aprillah, "Integrating Khidmah and Tarbiyah: A Service-Learning Model in Indonesia's Islamic Boarding School Education," 350.

kyai, pesantren, or the surrounding community, without paying particular attention to pedagogical services as a form of khidmah.[13] Much earlier work relied on frameworks that outline the different components of helping behavior, service-learning, and hands-on learning.[14] These views are helpful explanations of the social and developmental aspects of service but fail to convey the culturally embedded values of pesantren, which include sincerity, respect for teachers, responsibility in imparting knowledge, spiritual control, and seeking blessing in learning.[15]

To bridge this gap, *Santri Teaching Khidmah* was designed based on the synthesis of contemporary literature on khidmah and Islamic educational thoughts from the classical literature, focusing on teacher moral considerations, knowledge transfer, and educational responsibilities.[16] The construct does not stem from any single theory but is rather a synthesis of pedagogical, ethical, and spiritual principles found in the pesantren tradition and rooted in culture. *Santri Teaching Khidmah*, based on this concept, is an educational service carried out by santri that involves pedagogical competence, ethics, spiritual involvement, and self-improvement. Operationally, the construct is represented by three interrelated dimensions: pedagogical-islamic competence, teachers' intentions and ethics, and self-reflection and self-development.

Conceptually and methodologically, previous studies have often relied on qualitative approaches, observations, or descriptive questionnaires, with limited rigorous construct validation.[17] Although prosocial behavior, service-learning, experiential learning, and personal development offer useful frameworks, they do not fully capture the pedagogical-spiritual nature of *khidmah* teaching, which integrates ethical responsibility, spiritual intention, knowledge transmission, teaching preparedness, and religiously grounded teacher–student relationships.[18] Moreover, existing discussions generally address *khidmah* in broad terms rather than its specific teaching dimension.[19] This study, therefore, proposes a pesantren-

[13] Fathurrohman and Arifi, "Khidmah in Transition: Santri, Kiai, and Social Transformation in Pesantren," 2024, 228.

[14] Marmi and Sujono Riyadi, "Islamic Principles in Nursing Leadership: Lesson Learned from Rufaida Al-Aslami's Lens and Legacy," *Journal of Holistic Nursing Science* 12, no. 2 (2025): 326, https://doi.org/10.31603/jhns.v12i2.13718.

[15] Jaenullah Jaenullah, Ferdian Utama, and Dedi Setiawan, "Resilience Model of the Traditional Islamic Boarding School Education System in Shaping the Morals of Student in the Midst of Modernizing Education," *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran* 8, no. 4 (2022): 932, https://doi.org/10.33394/jk.v8i4.6013.

[16] Abdillah and Maskuri, "The Khidmah Tradition of Santri Towards Kyai (The Review of 'Urf & Psychology)," 280; Fathurrohman and Arifi, "Khidmah in Transition: Santri, Kiai, and Social Transformation in Pesantren," 2024, 232; Burhan Al-Din Ibrahim al-Zarnuji, *Ta'lim Al-Muta'allim Fi Ṭarīq Al-Ta'Allum* (Beirut: Dār Ibn Kaṡīr, 2014), 35; Muhammad Bin Muhammad al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn* (Beirut: Dār Ibn Ḥazm, 2005), 75; Muhammad Bin Ibrahim Bin Sa'dillah Al-Kinani Al-Syafi'i Ibnu Jama'ah, *Tadzkirah Al-Sāmi' Wa Al-Mutakallim Fī Ādāb Al-'Ālim Wa Al-Muta'Allim* (Beirut: Dār al-Basyā'ir al-Islāmiyyah, 2012), 87; Yahya Bin Syaraf al-Nawawi, *Ādāb Al-'Ālim Wa Al-Muta'Allim Wa Aḥkām Al-Ifta' (Muqaddimah Kitāb Al-Majmū')* (Riyadh: Dār al-Ḥijāz, 2020), 65; Muhammad Al-Nawawi al-Bantani, *Salālim Al-Fuḍalā' Syarḥ Hidāyah Al-Adzkiyā' Ilā Ṭarīq Al-Auliyā'* (Beirut: Dār al-Kutub al-'Ilmiyyah, 2011), 18.

[17] Taisir, Sanusi, and Aprillah, "Integrating Khidmah and Tarbiyah: A Service-Learning Model in Indonesia's Islamic Boarding School Education," 356; Abdillah and Maskuri, "The Khidmah Tradition of Santri Towards Kyai (The Review of 'Urf & Psychology)," 281.

[18] Abdillah and Maskuri, "The Khidmah Tradition of Santri Towards Kyai (The Review of 'Urf & Psychology)," 284.

[19] Fathurrohman and Arifi, "Khidmah in Transition: Santri, Kiai, and Social Transformation in

based framework comprising three interrelated dimensions: pedagogical competence, ethical-spiritual commitment, and self-development. The lack of psychometric instruments that have been developed and factor-analytically validated to measure these integrated dimensions further underscores the need for this study.

This study develops and validates the *Santri Teaching Khidmah* instrument, distinguishing teaching *khidmah* as a pedagogical-spiritual practice from general forms of service. Integrating classical Islamic texts, pesantren culture, and Islamic teaching ethics into psychometric indicators, the instrument is empirically examined using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The study contributes to contextually grounded Islamic educational psychometrics by incorporating pesantren epistemology and cultural traditions into measurement. Theoretically, it advances pesantren-based educational assessment; practically, it provides kyai and pesantren administrators with a systematic tool to evaluate, map, and improve santri teachers' quality. Accordingly, this study addresses two research questions: 1) What is *the* exploratory factor structure formed by the *Santri Teaching Khidmah* instrument?; and 2) To what extent does the *Santri Teaching Khidmah* instrument possess adequate validity and reliability as a measurement tool in the context of pesantren education?.

RESEARCH METHOD

This study aimed to develop and validate the *Santri Teaching Khidmah* instrument for measuring santri's pedagogical practices in pesantren education. An instrument-development design was employed, comprising qualitative and quantitative phases. The qualitative phase established the constructs, dimensions, and indicators through a literature review and integration of pesantren educational values. The quantitative phase examined the instrument's validity and reliability using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). This approach ensured a theoretically grounded, contextually relevant, and psychometrically sound instrument. The development process involved the following stages.

Stage 1: Construct Development and Instrument Design

The *Santri Teaching Khidmah* construct was developed through a conceptual synthesis of Islamic education literature, classical Islamic sources, and research on pesantren traditions. Six classical works were reviewed for their relevance to teaching competence, educator ethics, knowledge transmission, moral character, pedagogical accountability, and self-development: *Tadẕkirah al-Sāmiʿ wa al-Mutakallim* by Ibn Jamaʿah; *Ādāb al-ʿĀlim wa al-Mutaʿallim wa Aḥkām al-Iftā'* by al-Nawawi; *Iḥyā' ʿUlūm al-Dīn* by al-Ghazali; *Salālim al-Fuḍalā' Syarḥ Hidāyah al-Adẕkiyā' ilā Ṭarīq al-Auliyā'* by al-Nawawi al-Bantani; *Taʿlīm al-Mutaʿallim fī Ṭarīq al-Taʿallum* by al-Zarnuji; and *al-Ḥāfiẓ al-Khaṭīb al-Baghdādī wa Atsaruhu fī ʿUlūm al-Ḥadīts* by al-Thahhan. The synthesis involved extracting relevant concepts, formulating core statements, grouping related ideas into categories, and comparing themes across classical sources and contemporary interpretations. These themes were then integrated into dimensions and indicators reflecting the pedagogical and spiritual aspects of teaching khidmah in pesantren.

Pesantren," 2024, 245.

The process yielded three dimensions and twelve indicators, which underwent expert validation in Stage 2.

Based on this synthesis, the *Santri Teaching Khidmah* construct was operationalized into three dimensions, namely Pedagogical-Islamic Competence, Teachers' Intentions and Ethics, and Self-Reflection and Self-Development. Pedagogical-Islamic Competence encompassed knowledge of the classical Islamic texts, adaptation of learning materials, religious communication skills, and assessment of learning.[20] Sincerity, respect for the kyai, good behavior, and compassion were among the teachers' Intentions and Ethics.[21] Pedagogical self-reflection, learning from experience, taking advice from the kyai, and integration of knowledge and action were part of Self-Reflection and Self-Development. The 12 indicators were then broken down into 36 items, with three items being created for each indicator, following a 4-point Likert scale.

Stage 2: Content Validation and Readability Testing

Content validity was assessed by three experts in pesantren education, educational psychometrics, and pesantren teaching practice, who rated each item on a four-point scale across five criteria: dimensional representativeness, readability and clarity, measurement accuracy without ambiguity or construct contamination, contextual appropriateness regarding *adab*, *ta'dzim*, sincerity, and *khidmah*, and consistency with Islamic moral and educational principles. Using Aiken's V with a retention threshold of ≥ 0.60, all 36 items met the criterion, with coefficients ranging from 0.756 to 1.000 (M = 0.905). Expert feedback informed linguistic revisions to improve clarity, conceptual precision, and contextual appropriateness while preserving construct meaning. Readability was subsequently pilot-tested with 10 santri teachers excluded from the main sample, assessing linguistic clarity, comprehensibility, familiarity with pesantren-specific terminology, and item interpretation; their feedback informed the final revisions before the main field study.

Stage 3: Field Testing

Following content validation and readability testing, the instrument was administered to santri who were actively involved in teaching or mentoring activities in pesantren and had at least six months of teaching experience.[22] Using purposive sampling, 200 santri teachers were recruited from three pesantren in Central Java representing different institutional characteristics: Al-Falah Mudal Pamotan (salaf-contemporary),[23] Al-Qaumaniyah Kudus

[20] al-Zarnuji, *Ta'lim Al-Muta'allim Fi Ṭarīq Al-Ta'Allum*, 46; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 59; Ibnu Jama'ah, *Tadzkirah Al-Sāmi' Wa Al-Mutakallim Fī Ādāb Al-'Ālim Wa Al-Muta'Allim*, 85.

[21] al-Nawawi, *Adāb Al-'Ālim Wa Al-Muta'Allim Wa Aḥkām Al-Iftā' (Muqaddimah Kitāb Al-Majmū')*, 55; al-Bantani, *Salālim Al-Fuḍalā' Syarḥ Hidāyah Al-Adzkiyā' Ilā Ṭarīq Al-Auliyā'*, 40; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 64.

[22] Markus Talvio, Lauri Hietajärvi, and Taru Lintunen, "The Challenge of Sustained Behavioural Change - the Development of Teachers' Social and Emotional Learning during and after a Lions Quest Workshop," *International Approaches to Promoting Social and Emotional Learning in Schools: A Framework for Developing Teaching Strategy*, 2021, 210, https://doi.org/10.4324/9781003093053-15.

[23] P P Al Falah Mudal, "Profil Singkat Ponpes Al-Falah Mudal" (YouTube, 2026), https://youtu.be/pmtszmCg32Y, accessed 6 April 2026.

(traditional Salafi),[24] and Kauman Lasem (multicultural and institution-oriented).[25] The sample consisted of 60 respondents from Al-Falah Mudal Pamotan, 60 from Al-Qaumaniyah Kudus, and 80 from Kauman Lasem. The demographic and teaching-related characteristics of the respondents are presented in Table 1.

Table 1. Demographic and Teaching-Related Characteristics of The Respondents

Characteristic	Category / Statistic	n	%
Age	Mean ± SD	20.8 ± 2.4	—
	Range	17–29 years	—
Gender	Male	124	62.0
	Female	76	38.0
Educational level	Junior secondary / MTs	42	21.0
	Senior secondary / MA/SMA	118	59.0
	Higher education	40	20.0
Pesantren affiliation	Al-Falah Mudal Pamotan	60	30.0
	Al-Qaumaniyah Kudus	60	30.0
	Kauman Lasem	80	40.0
Teaching experience	6–12 months	92	46.0
	>1–2 years	68	34.0
	>2 years	40	20.0
	Mean ± SD	18.6 ± 11.2 months	—
Total		200	100.0

All 200 respondents were used for both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) in the initial psychometric validation, limiting independent cross-validation and highlighting the need for replication with an independent sample. Data were collected over two weeks following permission from the participating pesantren. Although Institutional Review Board or research ethics committee approval was not obtained, participants were informed that participation was voluntary and anonymous and that they could withdraw at any time. The relatively young sample, including participants under 18 years of age, was an additional limitation of the study.

Stage 4: Testing the Validity and Reliability of the Instrument

Data were analyzed using JASP through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Data suitability was verified using KMO (≥ 0.60) and Bartlett's Test ($p < 0.05$). EFA employed Principal Axis Factoring (PAF) with Promax rotation to accommodate correlated factors,[26] while factor retention was guided by eigenvalues, cumulative explained variance, and the scree plot. The initial 36 items were iteratively screened for factor loadings (≥ 0.40), communalities (≥ 0.30), and substantial

[24] M I Shodiqin, "Ponpes Al Qaumaniyah, Jejak Seabad Pendidikan Islam di Kudus" (Beta News ID, 2025), https://betanews.id/2025/03/ponpes-al-qaumaniyah-jejak-seabad-pendidikan-islam-di-kudus.html, accessed 6 April 2026.

[25] Yayasan Kauman Lasem, "Pondok Pesantren Kauman" (Yayasan Kauman Lasem, 2026), https://yayasankaumanlasem.id/pondok-pesantren-kauman/, accessed 6 April 2026.

[26] David Goretzko, Trang Thien Huong Pham, and Markus Bühner, "Exploratory Factor Analysis: Current Use, Methodological Developments and Recommendations for Good Practice," *Current Psychology* 40, no. 7 (2021): 3510, https://doi.org/10.1007/s12144-019-00300-2.

cross-loadings,[27] retaining items that produced a stable, theoretically interpretable Santri Teaching Khidmah structure. Subsequently, CFA assessed model fit using χ^2/df, CFI, TLI, IFI, RMSEA, and SRMR; internal consistency using Cronbach's alpha; convergent validity using standardized loadings (≥ 0.50) and AVE (≥ 0.50); discriminant validity using the Fornell–Larcker criterion (√AVE exceeding interconstruct correlations); and construct reliability using Composite Reliability (CR ≥ 0.70).

Stage 5: Finalization of the Instrument

The final validation included content analysis, EFA, CFA, and assessments of validity and reliability. All 36 items met the established psychometric criteria and were retained, forming three dimensions of 12 items each: Pedagogical-Islamic Competence, Teachers' Intentions and Ethics, and Self-Reflection and Self-Development. The final *Santri Teaching Khidmah* Scale used a four-point Likert response format. Instrument quality was assessed through expert evaluations of content validity, EFA, and CFA to examine construct validity and alignment with the theoretical framework, reliability analysis to assess internal consistency within each dimension, and a preliminary readability test to ensure item comprehensibility. Together, these procedures established the instrument as a validated measure of *Santri Teaching Khidmah* in the pesantren context.

RESULT AND DISCUSSION

Santri Teaching Khidmah Scale Instrument

The *Santri Teaching Khidmah* Scale comprises three dimensions, initially represented by 36 items. Pedagogical-Islamic Competence (12 items) assesses mastery of Islamic subjects, teaching adaptation, religious educational communication, and learning evaluation.[28] Teachers' Intentions and Character (12 items) measures sincerity, respect for kyai, exemplary conduct, and care in teaching as service.[29] Reflection and Self-Development (12 items) evaluates pedagogical self-reflection, learning from teaching experience, seeking kyai guidance, and continuous integration of knowledge and practice.[30] Three experts in pesantren education, educational psychometrics, and pesantren teaching practice assessed content validity. Aiken's V coefficients ranged from 0.756 to 1.000, meeting the predetermined criteria for all items. Expert feedback informed minor wording revisions; no items were removed. All 36 items were retained for EFA and CFA, following content validation of their conceptual alignment, readability, and contextual appropriateness.

[27] J F Hair et al., *Multivariate Data Analysis*, 8th ed. (Hampshire: Cengage Learner, 2019), 153.

[28] al-Zarnuji, *Ta'līm Al-Muta'allim Fī Ṭarīq Al-Ta'Allum*, 46; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 59; Ibnu Jama'ah, *Tadzkirah Al-Sāmi' Wa Al-Mutakallim Fī Ādāb Al-'Alim Wa Al-Muta'Allim*, 85.

[29] al-Nawawi, *Ādāb Al-'Ālim Wa Al-Muta'Allim Wa Aḥkām Al-Iftā' (Muqaddimah Kitāb Al-Majmū')*, 55; al-Bantani, *Salālim Al-Fuḍala' Syarḥ Hidāyah Al-Adzkiyā' Ilā Ṭarīq Al-Auliyā'*, 40; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 64.

[30] al-Nawawi, *Ādāb Al-'Ālim Wa Al-Muta'Allim Wa Aḥkām Al-Iftā' (Muqaddimah Kitāb Al-Majmū')*, 56; al-Bantani, *Salālim Al-Fuḍala' Syarḥ Hidāyah Al-Adzkiyā' Ilā Ṭarīq Al-Auliyā'*, 41; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 64.

1. Indicators of the Pedagogical-Islamic Competence Dimension: mastery of classical Islamic texts, adaptation of learning materials, religious communication skills, and learning assessment.[31]
2. Indicators of the Dimension of Teacher Intentions and Character: sincerity, *respect* for the kyai, exemplary character, and *compassion* in teaching.[32]
3. Indicators of the Dimensions of Reflection and Self-Development: pedagogical self-reflection, learning from experience, seeking guidance from the kyai, and the integration of knowledge and action.[33]

Exploratory Factor Analysis (EFA): Factor Structure of the *Santri Teaching Khidmah* Scale

Exploratory Factor Analysis (EFA) was conducted to examine the latent structure of the *Santri Teaching Khidmah* Scale. Data suitability was confirmed by a KMO value of 0.930, item-level MSA values of 0.881–0.950, and a significant Bartlett's Test of Sphericity, $\chi^2(630) = 4473.118$, $p < .001$. Factor retention was assessed using eigenvalues, the scree plot, and parallel analysis, all of which supported a three-factor solution. The unrotated eigenvalues were 8.238, 6.098, and 5.835, with the three factors collectively explaining 56.0% of the total variance. After rotation, Factors 1, 2, and 3 accounted for 19.6%, 19.2%, and 17.3% of the variance, respectively.

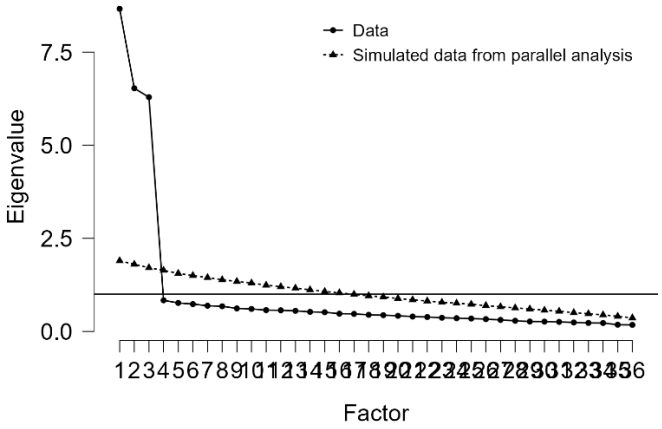


Figure 1. Scree plot and parallel analysis of the *Santri Teaching Khidmah* scale

The factor solution was then analyzed with an Oblimin rotation. The results of the pattern matrix showed a well-defined three-factor structure. The structure was such that Items 1 to 12 formed Factor 1, Items 25–36 formed Factor 2, and Items 13 to 24 formed Factor 3. The factor structure matrix was the same, with items clustering in the same factors, further confirming the three-factor structure's face validity. The pattern matrix is shown in

[31] al-Zarnuji, *Ta'līm Al-Muta'allim Fī Ṭarīq Al-Ta'Allum*, 46; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 59; Ibnu Jama'ah, *Tadzkirah Al-Sāmi' Wa Al-Mutakallim Fī Ādāb Al-'Ālim Wa Al-Muta'Allim*, 85.

[32] al-Nawawi, *Ādāb Al-'Ālim Wa Al-Muta'Allim Wa Aḥkām Al-Ifta' (Muqaddimah Kitāb Al-Majmū')*, 56; al-Bantani, *Salālim Al-Fuḍala' Syarḥ Hidāyah Al-Adzkiyā' Ilā Ṭarīq Al-Auliyā'*, 41; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 64.

[33] Ibnu Jama'ah, *Tadzkirah Al-Sāmi' Wa Al-Mutakallim Fī Ādāb Al-'Ālim Wa Al-Muta'Allim*, 45; al-Ghazali, *Iḥyā' 'Ulūm Al-Dīn*, 55; Mahmud al-Thahhan, *Al-Ḥāfiẓ Al-Khaṭīb Al-Baghdādī Wa Atsaruhu Fī 'Ulūm Al-Ḥadīts* (Kairo: Dār al-Qur'ān al-Karīm, 1981), 180.

Table 2.

Table 2. Pattern Matrix of the *Santri Teaching Khidmah* Scale

Item	Factor 1	Factor 2	Factor 3	Communality (h^2)
1	0.775			0.587
2	0.826			0.676
3	0.723			0.536
4	0.757			0.572
5	0.717			0.534
6	0.720			0.530
7	0.781			0.617
8	0.793			0.633
9	0.768			0.596
10	0.760			0.577
11	0.788			0.626
12	0.738			0.548
13			0.728	0.543
14			0.695	0.484
15			0.693	0.482
16			0.742	0.548
17			0.722	0.517
18			0.751	0.563
19			0.669	0.450
20			0.705	0.516
21			0.714	0.518
22			0.748	0.568
23			0.712	0.503
24			0.718	0.535
25		0.782		0.613
26		0.797		0.635
27		0.749		0.567
28		0.768		0.594
29		0.774		0.597
30		0.769		0.599
31		0.722		0.522
32		0.709		0.500
33		0.769		0.581
34		0.738		0.547
35		0.783		0.607
36		0.710		0.550

Note: Principal Axis Factoring was followed by Oblimin rotation. Only salient factor loadings are reported. Communality (h^2) was calculated as 1 – uniqueness.

The EFA pattern matrix showed that all 36 items loaded strongly on the intended factors, with loadings ranging from 0.669 to 0.826. Items 1–12 formed Factor 1 (Pedagogical-Islamic Competence; 0.717–0.826), reflecting mastery of Islamic teaching materials, adaptive instruction, religious-based communication, and learning assessment. Items 25–36 comprised Factor 2 (Self-Reflection and Self-Development; 0.709–0.797), representing pedagogical reflection, learning from teaching experience, seeking guidance, and integrating knowledge into practice. Items 13–24 constituted Factor 3 (Teachers' Intentions and Ethics; 0.669–0.751), encompassing sincerity, respect for the *kyai*, exemplary conduct, and compassion in teaching. Although the statistical extraction order differed from the original conceptual sequence, the item groupings fully corresponded to the three theoretically proposed domains, providing empirical support for the multidimensional structure of *Santri Teaching Khidmah*. Furthermore, all communalities ranged from 0.450 to 0.676, exceeding the minimum criterion of 0.30; no problematic cross-loadings were identified, and all factor loadings surpassed the recommended threshold of 0.40. Consequently, no items were removed, and the original 36-item instrument was retained for subsequent confirmatory factor analysis (CFA). The characteristics of the extracted factors are summarized in Table 3.

Table 3. Factor Characteristics of the *Santri Teaching Khidmah* Scale

Factor	Items	Eigenvalue	Rotated Variance	Cumulative Variance	Loading Range	Interpretation
Factor 1	Items 1–12	8.238	19.6%	19.6%	0.717–0.826	Pedagogical-Islamic Competence
Factor 2	Items 25–36	6.098	19.2%	38.8%	0.709–0.797	Self-Reflection and Self-Development
Factor 3	Items 13–24	5.835	17.3%	56.0%	0.669–0.751	Teachers' Intentions and Ethics
Total	36 items		56.0%	56.0%	0.669–0.826	Three-factor structure

The inter-factor correlations were low, ranging from $r = -0.127$ (Factors 1–2) to $r = 0.097$ (Factors 1–3) and $r = -0.068$ (Factors 2–3), indicating that the three dimensions were empirically distinct and independent within the *Santri Teaching Khidmah* construct. The overall EFA model also demonstrated excellent fit, with a nonsignificant chi-square test, $\chi^2(525) = 480.314$, $p = .919$, and strong fit indices (RMSEA = 0.000, 90% CI [0.000, 0.009]; SRMR = 0.027; CFI = 1.000). Together, the factor retention, loading pattern, explained variance, communalities, and model-fit indices supported a robust three-factor exploratory structure, which was subsequently validated through Confirmatory Factor Analysis (CFA) to examine its stability and overall model fit.

Confirmatory Factor Analysis (CFA) of the *Santri Teaching Khidmah* Scale

Validity and reliability testing were done to check the psychometric quality of the *Santri Teaching Khidmah* Scale developed. After this stage, the analysis used Confirmatory Factor Analysis (CFA) to determine whether the obtained factor structure aligned with the

previously hypothesized theoretical model. The test also verified that each indicator was valid and reliable for measuring the construct. The analysis results are presented in the table below.

Table 4. Model Fit Test: Chi-square Model Fit Test

Model	X^2	df	p
Baseline model	4805.498	630	
Factor model	578.781	591	.632

The baseline model had a chi-square statistic of 4805.498 with 630 degrees of freedom, as shown in Table 4. The chi-square statistic, with 591 degrees of freedom and a significance level of 0.632, was obtained from the factor model after establishing the factor structure. These findings indicate a substantial decrease in the chi-square statistic relative to the baseline model. When the p-value is greater than 0.05, the proposed measurement model does not differ significantly from the empirical data and is therefore accepted. The assumption that the theoretical model of *Santri Teaching Khidmah*, which has been developed, is organized consistently based on this assumption is strengthened by the fit of the theoretical model and empirical data.

Table 5. Fit Index

Fit Index	Value
χ^2/df	0.979
CFI	1.000
TLI	1.003
IFI	1.003
RMSEA	0.000
RMSEA 90% CI	[0.000, 0.020]
SRMR	0.046

The CFA results demonstrated an excellent fit of the proposed three-factor measurement model to the observed data, with $\chi^2/df = 0.979$, CFI = 1.000, TLI = 1.003, IFI = 1.003, RMSEA = 0.000 (90% CI [0.000, 0.020]), and SRMR = 0.046. Although TLI and IFI slightly exceeded 1.00 and CFI reached its upper boundary, these values indicate excellent model fit when interpreted alongside the RMSEA and SRMR. This conclusion was further supported by the nonsignificant chi-square test ($p = 0.632$), indicating no significant discrepancy between the proposed model and the observed data. Collectively, these findings confirm the stability of the three-factor structure and provide a strong basis for subsequent assessments of the construct validity and reliability of the *Santri Teaching Khidmah* scale.

Table 6. Factor loadings

Factor	Indikator (Items)	Estimate	Std. Error	z-value	p	95% Confidence Interval		β
						Lower	Upper	
Factor 1	1	1.000	—	—	—	—	—	0.755
	2	1.051	0.086	12.21	< .001	0.882	1.220	0.817
	3	0.865	0.081	10.74	< .001	0.707	1.022	0.731
	4	0.982	0.088	11.17	< .001	0.810	1.154	0.757
	5	0.921	0.086	10.64	< .001	0.751	1.090	0.726
	6	0.908	0.085	10.65	< .001	0.741	1.075	0.727
	7	1.021	0.087	11.68	< .001	0.850	1.192	0.787
	8	1.042	0.088	11.79	< .001	0.869	1.215	0.793
	9	1.004	0.088	11.43	< .001	0.832	1.176	0.772
	10	0.965	0.087	11.14	< .001	0.795	1.135	0.755
	11	0.976	0.083	11.77	< .001	0.813	1.138	0.792
	12	0.989	0.091	10.92	< .001	0.812	1.167	0.742
Factor 2	13	1.000	—	—	—	—	—	0.731
	14	0.954	0.098	9.697	< .001	0.761	1.146	0.694
	15	0.983	0.103	9.513	< .001	0.780	1.185	0.682
	16	1.000	0.097	10.33	< .001	0.810	1.189	0.738
	17	0.992	0.099	9.994	< .001	0.798	1.187	0.715
	18	0.985	0.095	10.40	< .001	0.799	1.170	0.742
	19	0.902	0.096	9.371	< .001	0.713	1.091	0.672
	20	0.962	0.096	9.997	< .001	0.773	1.150	0.715
	21	0.991	0.099	10.06	< .001	0.798	1.185	0.719
	22	1.046	0.099	10.53	< .001	0.851	1.241	0.751
	23	0.923	0.093	9.894	< .001	0.740	1.105	0.708
	24	1.023	0.101	10.17	< .001	0.825	1.220	0.727
Factor 3	25	1.000	—	—	—	—	—	0.780
	26	1.048	0.085	12.34	< .001	0.882	1.215	0.796
	27	1.003	0.087	11.56	< .001	0.833	1.174	0.756
	28	1.045	0.088	11.87	< .001	0.873	1.218	0.772
	29	1.076	0.091	11.87	< .001	0.898	1.254	0.772
	30	1.022	0.086	11.87	< .001	0.853	1.191	0.772
	31	0.923	0.085	10.89	< .001	0.757	1.089	0.720
	32	0.905	0.085	10.64	< .001	0.738	1.072	0.706
	33	0.992	0.086	11.57	< .001	0.824	1.161	0.756
	34	0.963	0.086	11.23	< .001	0.795	1.131	0.738
	35	1.110	0.093	11.99	< .001	0.929	1.292	0.778
	36	0.966	0.088	11.02	< .001	0.794	1.138	0.727

The CFA results (Table 6) showed that all 36 indicators loaded adequately on their respective latent factors, with standardized loadings (β) ranging from 0.726 to 0.817 for Factor 1, 0.672 to 0.751 for Factor 2, and 0.706 to 0.796 for Factor 3. As all standardized

loadings exceeded the recommended threshold of 0.50, the findings provide evidence of adequate convergent validity at the indicator level. For model identification, the unstandardized loadings of Item_1, Item_13, and Item_25 were fixed at 1.000 as marker indicators, while all remaining unstandardized loadings were statistically significant ($p < .001$) with 95% confidence intervals excluding zero. Since no indicator fell below the retention criterion, all 36 items were retained, providing further empirical support for the Santri Teaching Khidmah Scale's three-dimensional structure.

Table 7. Convergent Validity of the *Santri Teaching Khidmah* Scale

Construct	AVE	CR
Pedagogical-Islamic Competence	0.583	0.944
Teachers' Intentions and Ethics	0.513	0.927
Self-Reflection and Self-Development	0.574	0.941

The average variance extracted (AVE) and composite reliability (CR) scores presented in Table 7 suggest good convergent validity and construct reliability. The AVE values were 0.583 for Pedagogical-Islamic Competence, 0.513 for Teachers' Intentions and Ethics, and 0.574 for Self-Reflection and Self-Development. All values were above 0.50, the recommended minimum. The reported CR values were 0.944, 0.927, and 0.941 in sequence, all exceeding the recommended CR threshold of 0.70. The results indicate that the amount of variance accounted for in each indicator was adequate and the construct reliability was acceptable for each construct.

Table 8. Discriminant Validity Based on the Fornell–Larcker Criterion

Construct	1	2	3
1. Pedagogical-Islamic Competence	**0.764**		
2. Teachers' Intentions and Ethics	0.100	**0.716**	
3. Self-Reflection and Self-Development	−0.133	−0.069	**0.758**

Note**:** Bold diagonal entries indicate the square root of AVE, while the off-diagonal entries report standardized correlations between latent factors.

The Fornell–Larcker criterion was used to check the discriminant validity. The square roots of AVE were as follows: Pedagogical-Islamic Competence: 0.764; Teachers' Intentions and Ethics: 0.716; and Self-Reflection and Self-Development: 0.758, as presented in Table 8. The latent correlations were standardized as 0.100 between Factors 1 and 2, −0.133 between Factors 1 and 3, and −0.069 between Factors 2 and 3. In all instances, the magnitude of the square root of AVE was greater than all of the correlations among constructs. The results of this study show good discriminant validity across the three dimensions of the *Santri Teaching Khidmah* scale.

Table 9. Internal Consistency Reliability

Construct	Coefficient ω	Coefficient α
Pedagogical-Islamic Competence	0.944	0.943
Teachers' Intentions and Ethics	0.927	0.927
Self-Reflection and Self-Development	0.942	0.941

Construct	Coefficient ω	Coefficient α
total	0.938	0.872

The internal consistency results (Table 9) indicate that the *Santri Teaching Khidmah* Scale has good reliability across its three dimensions, with reliability coefficients of 0.74, 0.79, and 0.75. Item-level reliability was also high, with McDonald's ω ranging from 0.927 to 0.944 and Cronbach's α from 0.927 to 0.943, all exceeding the recommended threshold of 0.70. Overall, the total scale demonstrated satisfactory reliability (ω = 0.938; α = 0.872). Although the total-scale α was slightly lower than the dimension-specific α values, this is consistent with the instrument's multidimensional structure and the weak inter-factor correlations (r = 0.100, −0.133, and −0.069). Thus, the dimension-specific reliability coefficients provide stronger evidence for the three-factor structure of the *Santri Teaching Khidmah Scale*.

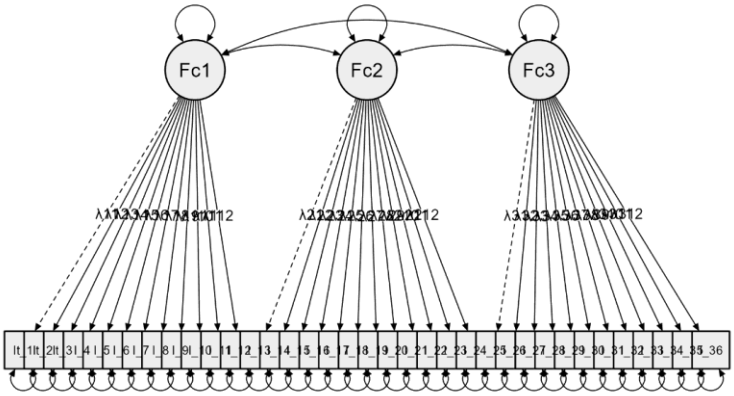


Figure 2. CFA model plot

Figure 2 presents the three-factor CFA measurement model of the *Santri Teaching Khidmah* Scale: Pedagogical-Islamic Competence (Items 1–12), Teachers' Intentions and Ethics (Items 13–24), and Self-Reflection and Self-Development (Items 25–36), with residual terms representing variance unexplained by the respective latent constructs. Inter-factor correlations were weak: 0.100 between Pedagogical-Islamic Competence and Teachers' Intentions and Ethics, −0.133 between Pedagogical-Islamic Competence and Self-Reflection and Self-Development, and −0.069 between Teachers' Intentions and Ethics and Self-Reflection and Self-Development, indicating that the three dimensions are empirically distinguishable. The strongest standardized factor loadings were Item 2 (β = 0.817), Item 22 (β = 0.751), and Item 26 (β = 0.796) for their respective dimensions. Overall, the model supports a three-dimensional structure comprising distinct yet complementary aspects of *Santri Teaching Khidmah*.

Implications of the *Santri Teaching Khidmah* Instrument in the Context of Pesantren Education

EFA and CFA consistently supported three dimensions of *Santri Teaching Khidmah*: Pedagogical-Islamic Competence, Teachers' Intentions and Ethics, and Self-Reflection and

Self-Development. EFA yielded a three-factor solution, retaining all items with primary loadings ranging from 0.669 to 0.826; CFA supported the structure with standardized loadings ranging from 0.672 to 0.817. Average variance extracted (AVE) ranged from 0.513 to 0.583, and composite reliability (CR) from 0.927 to 0.944. These findings provide initial empirical support for a multidimensional construct grounded in Islamic educational thought.

Pedagogical-Islamic Competence showed loadings of 0.726–0.817 (AVE = 0.583; CR = 0.944), encompassing Islamic subject knowledge, instructional adaptation, educational communication, and assessment. This configuration reflects the responsibility for effective knowledge transmission emphasized by al-Zarnuji, al-Ghazali, and Ibn Jama'ah. Teaching *khidmah*, therefore, involves a distinct, reliable pedagogical component, not merely voluntary service or moral commitment. It locates competent instructional practice within *khidmah* without dissolving the ethical responsibility that gives service its religious significance.

Teachers' Intentions and Ethics (loadings = 0.672–0.751; AVE = 0.513; CR = 0.927) integrates sincerity, respect for the *kyai*, exemplary conduct, compassion, and moral responsibility into a measurable dimension. This accords with accounts of *khidmah* emphasizing devotion and respect,[34] and the persistence of its values amid social change.[35] An ethnographic study at Pesantren Sidogiri found that shared values shape educational identity through Islamic teaching and moral development.[36] Elsewhere, pesantren character formation draws on *turats*, religious foundations, institutional orientations, and contextual experience.[37] Together, these studies reinforce the interpretation of ethics as lived educational practice rather than abstract prescription. Their convergence suggests that ethical expectations are enacted through educational experiences embedded in institutional routines and relationships. Related empirical evidence also indicates that pesantren culture and institutional regulations contribute to santri character formation, highlighting the importance of the institutional environment in moral development.[38]

Self-Reflection and Self-Development also formed a coherent dimension (loadings = 0.706–0.796; AVE = 0.574; CR = 0.941). Its indicators capture teaching-based self-assessment, seeking guidance, and applying knowledge in practice. Reflecting *muhasabah*, *kyai* mentorship, and continuous improvement, this dimension positions santri simultaneously as teachers and learners. It also aligns with experiential educator development, whereby teaching, reflection, and refinement mutually inform professional growth. These processes arise from actual teaching responsibilities rather than self-improvement conceived only as an individual aspiration.

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[34] Abdillah and Maskuri, "The Khidmah Tradition of Santri Towards Kyai (The Review of 'Urf & Psychology)," 285.

[35] Fathurrohman and Arifi, "Khidmah in Transition: Santri, Kiai, and Social Transformation in Pesantren," 2024, 227.

[36] A N Kawakip and Sulanam, "The Practice of Shared Values and Islamic Educational Identity: Evidence from a Pesantren in East Java, Indonesia," *Journal of Indonesian Islam* 17, no. 1 (2023): 30, https://doi.org/10.15642/JIIS.2023.17.1.27-53.

[37] Mujahid, "Islamic Orthodoxy-Based Character Education: Creating Moderate Muslim in a Modern Pesantren in Indonesia," 187.

[38] Mamik Setyani et al., "Exploring the Influence of Self-Competence and Islamic Boarding School Regulations on Student Character: The Mediating Role of Islamic Boarding School Culture," *Cendekia: Jurnal Kependidikan dan Kemasyarakatan* 22, no. 1 (2024): 140–154, https://doi.org/10.21154/cendekia.v22i1.9555.

The dimensions were empirically distinguishable: latent correlations were 0.100 between competence and ethics, −0.133 between competence and reflection, and −0.069 between ethics and reflection. Each dimension's square root of AVE exceeded its inter-factor correlations, satisfying the Fornell–Larcker criterion. Thus, pedagogical capability, ethical-spiritual orientation, and reflective development appear complementary rather than strongly interdependent within the measured construct. This within-scale differentiation does not establish separation from related external constructs. Together, the dimensions capture what santri teach, how they orient themselves ethically, and how they improve through practice.

This measurement perspective extends the literature portraying khidmah as a moral relationship among santri, kyai, and pesantren, examines its transformation amid social change, and connects *khidmah* and *tarbiyah* to service-learning.[39] The construct is not necessarily separate from service-learning, prosocial behavior, or experiential learning; its contribution is an empirically assessable configuration of three dimensions in the studied pesantren context. Comparable methodological work operationalized culturally relevant and responsive education alongside self-determination theory,[40] and the Confucian concept of *ren* as a multidimensional teaching construct validated across two independent samples.[41] Although neither directly validates teaching *khidmah*, both demonstrate the feasibility of measuring culturally situated educational values. They offer methodological analogies, not evidence that either cultural model transfers directly to pesantren.

The scale consequently offers initial evidence of a culturally grounded construct, not proof of universal uniqueness. Its three-factor structure, convergent validity, reliability, and within-scale discriminant validity support this interpretation, while its theoretical grounding combines classical Islamic sources, contemporary *khidmah* scholarship, and empirical pesantren research. Across these sources, religious pesantren values shape educational identity, character formation, and everyday institutional practices. Practically, the *Santri Teaching Khidmah Scale* could complement observation and mentor judgment when assessing teaching readiness, identifying mentoring needs, and planning educator or leadership development. Such assessments should inform development rather than become definitive judgments about a santri's character or instructional quality. However, EFA and CFA used the same sample, limiting independent confirmation. Future research should replicate the model with independent samples across *salaf*, modern, and other pesantren traditions; compare it with service-learning, teacher efficacy, prosocial orientation, and reflective practice; and establish predictive and incremental validity against educational outcomes.

[39] Taisir, Sanusi, and Aprillah, "Integrating Khidmah and Tarbiyah: A Service-Learning Model in Indonesia's Islamic Boarding School Education," 348.

[40] Jeanette Zambrano et al., "Race-Reimaged Autonomy Support: A Validation of a Measure That Integrates Self-Determination Theory and Culturally Relevant Education," *Contemporary Educational Psychology* 84 (2026): 5, https://doi.org/10.1016/j.cedpsych.2025.102442.

[41] W Lu, "Perceived Confucian Ren-Based Teaching: Scale Development, Construct Validation, and Associations with Learning Motivation and School Belonging," *Frontiers in Psychology* 17 (2026): 8, https://doi.org/10.3389/fpsyg.2026.1898379.

CONCLUSION

This study provides initial psychometric evidence that the *Santri Teaching Khidmah Scale* is a reliable and theoretically coherent instrument for assessing teaching khidmah in pesantren, with three dimensions: Pedagogical-Islamic Competence, Teachers' Intentions and Ethics, and Self-Reflection and Self-Development. These dimensions capture pedagogical ability, ethical-spiritual orientation, and reflective growth, translating pesantren educational values into measurable constructs beyond conventional teaching-performance indicators. The scale may support mentoring, developmental assessment, and evaluation of santri with teaching responsibilities. However, its validation remains preliminary due to the limited sample of three pesantren in Central Java, the use of the same sample for EFA and CFA, and the absence of measurement invariance and predictive validity testing. Reliance on self-reports of sincerity, spiritual intention, and moral conduct may also introduce common method variance and social desirability bias. Future research should validate the factor structure using independent and diverse samples, test measurement invariance and predictive validity, and triangulate santri self-assessments with evaluations from *kyai*, mentors, or teaching supervisors to establish the scale's generalizability and practical utility across pesantren settings.

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DISCLOSURE STATEMENT

Ahmad Tauviqillah contributed to the conceptualization of the study, instrument development, data collection, data analysis, interpretation of the findings, and preparation of the original manuscript. Kusaeri contributed to theoretical guidance, supervision, interpretation of the findings, and critical review and revision of the manuscript. Suparto contributed to methodological guidance, statistical analysis, supervision, interpretation of the findings, and critical review and revision of the manuscript. Noornajihan Jaafar contributed to theoretical guidance in Islamic education, contextual interpretation of the findings, and critical review and revision of the manuscript. All authors contributed to the development of the article, reviewed its final content, and approved the final version for publication.

USE OF ARTIFICIAL INTELLIGENCE (AI)

The authors declare that ChatGPT, a generative artificial intelligence (AI) tool developed by OpenAI, was used exclusively for language editing, proofreading, and grammatical improvement during the preparation of this manuscript. The use of AI was limited to improving the clarity, readability, grammar, and linguistic quality of the text and did not influence the scientific content, conceptual framework, study design, data collection,

data analysis, interpretation of the findings, results, or conclusions. The manuscript was thoroughly reviewed and revised by the authors to ensure its accuracy, originality, academic integrity, and compliance with ethical publication standards. Full responsibility for the content of the manuscript remains with the authors.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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